
**Information technology — Multimedia
service platform technologies —**

**Part 2:
MPEG extensible middleware (MXM)
API**

*Technologies de l'information — Technologies de la plate-forme de
services multimédia —*

Partie 2: Intergiciel MPEG extensible (MXM) API



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/IEC JTC 1, *Information technology, SC 29, Coding of audio, picture, multimedia and hypermedia information*.

This third edition cancels and replaces the second edition (ISO/IEC 23006-2:2013), which has been technically revised.

A list of all parts in the ISO/IEC 23006 series can be found on the ISO website.

Introduction

The ISO/IEC 23006 series is a suite of standards that has been developed for the purpose of enabling the easy design and implementation of media-handling value chains whose devices interoperate because they are all based on the same set of technologies, especially MPEG technologies, accessible from the middleware APIs, elementary services and aggregated services.

The ISO/IEC 23006 series is referred to as MPEG Extensible Middleware (MXM) in its first edition, and it specifies an architecture (ISO/IEC 23006-1), an API (ISO/IEC 23006-2), a conformance and reference software (ISO/IEC 23006-3) and a set of protocols which MXM Devices had to adhere (ISO/IEC 23006-4). It specifies also how to combine elementary services into aggregated services (ISO/IEC 23006-5).

The ISO/IEC 23006 series is subdivided into five parts:

Part 1 — Architecture: specifies the architecture that can be used as a guide to an MPEG-M implementation;

Part 2 — MPEG Extensible Middleware (MXM) Application Programming Interface (APIs) (this document): specifies the middleware APIs;

Part 3 — Conformance and Reference Software: specifies conformance criteria and a reference software implementation with a normative value;

Part 4 — Elementary Services: specifies elementary service protocols between MPEG-M applications;

Part 5 — Service Aggregation: specifies mechanisms enabling the combination of Elementary Services and other services to build Aggregated Services.

Information technology — Multimedia service platform technologies —

Part 2: MPEG extensible middleware (MXM) API

1 Scope

This document specifies a set of Application Programming Interfaces (called for short MXM APIs) so that MPEG-M Applications running on an MPEG-M Device can access the standard multimedia technologies contained in its Middleware as MPEG-M Engines, as specified by ISO/IEC 23006-1.

The MXM APIs belong to two classes:

- the MPEG-M Engine APIs, i.e. the collection of the individual MPEG-M Engine APIs providing access to a single MPEG technology (e.g. video coding) or to a group of MPEG technologies where this is convenient;
- the MPEG-M Orchestrator API, i.e. the API of the special MPEG-M Engine (called Orchestrator Engine) that is capable of creating chains of MPEG-M Engines to execute high-level application calls such as “Play a video”, as opposed to the typically low-level MPEG-M Engine API calls.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1.1

Aggregated Service

service resulting from the combination of *Elementary Services* (3.1.2)

3.1.2

Elementary Service

basic unit of *service* (3.1.13)

3.1.3

content

Digital Item and its component elements, namely resources (e.g. media, scripts, executable), identifiers, descriptions (e.g. metadata) and *event* (3.1.6) reports